

REMARKS/ARGUMENTS

Claims 1-30 are pending in the application. Claims 1-30 have been rejected.

Claims 1-3, 11-12, and 25-28 were rejected under 35 U.S.C. §102(b) as being anticipated by Hiuga, Japanese Patent No. JP05226782A (hereinafter “Hiuga”). Claims 4-10, 13-24, and 27-30 were rejected under 35 U.S.C. §103(a) as being unpatentable over Hiuga in view of Sharp, Japanese Patent No. JP51033988A (hereinafter “Sharp”) in further view of Atwood et al., U.S. Patent No. 6,281,573 B1 (hereinafter “Atwood”).

Rejections under 35 U.S.C. §102

Claims 1-3, 11-12, and 25-28 were rejected under 35 U.S.C. §102(b) as being anticipated by Hiuga. Hiuga discloses a system and method for preventing a short-circuit due to the swollen part of soldering (*See Abstract*). The applicant respectfully traverses these rejections, in part, because Hiuga fails to teach or suggest a heat spreader including a surface having a central area and a channel, wherein said channel is recessed relative to said central area, as called for in independent claims 1, 11, and 25.

Hiuga discloses:

The side of a chip, that is, a pn-junction exposed on the circumference of the chip is formed in a higher position to the die bonding surface of a heat sink 7 than that of the central pn-junction so as not to be in contact with the swollen part 9 or a solder. A groove 10 is formed by etching a substrate 1, and after each crystal layer is formed on the substrate 1, it is cut along a dividing line, that is along a line 11 showing the side of the chip and then die-bonded to the heat sink 7 so that the active region thereof is on the heat-sink side of the heat sink 7 to provide a semiconductor device.

(Hiuga, Abstract, lines 4-8).

In other words, Hiuga discloses a substrate with a groove in the central position, not the heat sink. The grooves are to allow the semiconductor crystallization to occur away from the heat sink. The final product is separated into individual chips along these grooves, so that no groove exists in the final product at all, as shown in Figure 1 of Hiuga. So if the Examiner is

equating the heat sink with the heat spreader, as the claims already include a substrate, Hiuga does not disclose a heat spreader including a surface having a central area and a channel, and does not anticipate claims 1, 11, and 25. Applicant further respectfully submits that claims 2-3, 12, and 26-28 are allowable as depending from the allowable base claims 1, 11, and 25, respectively.

Based on the arguments above, reconsideration and withdrawal of the rejection of claims 1-3, 11-12, and 25-28 under 35 U.S.C. §102(b) is respectfully requested.

Claim Rejections under 35 U.S.C. §103

Claims 4-10, 13-24, and 27-30 were rejected under 35 U.S.C. §103(a) as being unpatentable over Hiuga in view of Sharp, and in further view of Atwood. As per claims 1, 11, 18, and 25, Applicant respectfully submits that Hiuga, Sharp, Atwood, and any combination thereof neither teach nor suggest a heat spreader including a surface having a central area and a channel, wherein said channel is recessed relative to said central area.

As stated above, Hiuga does not disclose a heat spreader including a surface having a central area and a channel, wherein said channel is recessed relative to said central area, as recited in claims 1, 11, 18, and 25. Neither Sharp nor Atwood disclose a heat spreader including a surface having a central area and a channel, wherein said channel is recessed relative to said central area. Therefore, Hiuga, Sharp, and Atwood do not render obvious claims 1, 11, 18, and 25. Applicant further respectfully submits that claims 4-10, 13-17, 19-24, and 27-30 are allowable as depending from the allowable base claims 1, 11, 18, and 25, respectively.

In view of the above, reconsideration and withdrawal of the rejection of claims 1-30 under 35 U.S.C. §103(a) is respectfully requested.

Applicant respectfully requests examination of the above claims as amended. A Notice of Allowance is earnestly solicited.

The Examiner is invited to contact the undersigned at (408) 975-7500 to discuss any matter concerning this application.

The Commissioner is hereby authorized to charge Deposit Account **11-0600** for any fees required or credit any overpayments in connection with this correspondence.

Respectfully submitted,

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